

Amendments to the Claims:

1. (Currently Amended) A system for ~~analysing~~ analyzing ECG curvature, ~~the system comprising:~~

input means; and

an ECG source,

~~wherein the system is configured to isolate and store at least one among a number of different parameters is isolated and stored,~~

~~which system has wherein the input means is connected to [[an]] the ECG source,~~

~~where the wherein the system is configured to indicate and/or isolate different parameters of a received ECG curvature are indicated and/or isolated by the system for indicating to indicate symptoms,~~

~~[[where]] wherein the system is configured to combine, in at least a first mathematical analysis, a first number of selected parameters from at least three main groups, which groups comprise of parameters [[of]] including symmetry, flatness, duration and/or complexity, are combined in at least a first mathematical analysis,~~

~~where the wherein the system is configured to represent a result of the analysis is represented as a point in at least one coordinate system, comprising having at least one axis,~~

~~where the wherein the system compares the is configured to compare actual coordinates in the coordinate system with a number of reference parameters stored in the system, for indicating to indicate symptoms or diseases having influence on the ECG curvature,~~

~~[[where]] wherein the system analyses the is configured to analyze a QT curvature of the ECG for indicating to indicate hereditary or acquired Long QT Syndrome.~~

2. (Currently Amended) A system for ~~analysing~~ analyzing ECG curvature according to claim 1, ~~characterised in that wherein the system is analysing configured to analyze the ECG curvature for Long QT Syndrome acquired by drug influence.~~

3. (Currently Amended) System according to claim 1, ~~characterised in that wherein the system is configured to repeat the analysis of the QT curvature analysing process is repeated in the system~~ for further selected parameters in order to achieve more reliable results.

4. (Currently Amended) System according to claim 1, ~~characterised in that wherein~~ the group of symmetry comprises at least one of the following parameters:

- S1 Symmetry evaluated from Tstart to Tend[.];
- S2 Symmetry with Tpeak as mean evaluated from Tstart to Tend[.];
- S3 Symmetry with Tpeak as mean evaluated in a symmetric interval of 10% of the Tstart-Tend-interval surrounding Tpeak[.];
- S4 Symmetry with Tpeak as mean evaluated in a symmetric interval of 20% of the Tstart-Tend-interval surrounding Tpeak[.];
- S5 Ratio of the time interval “Tstart to Tpeak” and the time interval “Tpeak to Tend[.];
- S6 Ratio of the average slope from Tstart to Tpeak and from Tpeak to Tend[.];
- S7 Variation evaluated from Tstart to Tend, calculated by the formula[.];
- S8 Variation with Tpeak as mean evaluated from Tstart to Tend[.];
- S9 Variation with Tpeak as mean evaluated in a symmetric interval of 10% of the Tstart-Tend-interval surrounding Tpeak[.];
- S10 Variation with Tpeak as mean evaluated in a symmetric interval of 20% of the Tstart-Tend-interval surrounding Tpeak[.];
- S11 The Hill parameter, K_m , evaluated by least square fitting of the ~~repolarisation repolarization~~ integral, RI(t), from the Jpoint to the following Ponset[.]; and
- S12 The Hill parameter, K_m , evaluated by least square fitting of the ~~repolarisation repolarization~~ integral, RI(t), from Tstart to Tend.

5. (Currently Amended) System according to claim 1, ~~characterised in that wherein~~ the group of flatness comprises at least one of the following parameters:

- F1 Flatness evaluated from Tstart to Tend[.];

F2 Flatness parameter, F1, normalized by the size of the R wave[[.]];
F3 Flatness with Tpeak as mean evaluated from Tstart to Tend[[.]];
F4 Flatness parameter, F3, normalized by the size of the R wave[[.]];
F5 Flatness with Tpeak as mean evaluated in a symmetric interval of 10% of the Tstart-Tend-interval surrounding Tpeak[[.]];
F6 Flatness parameter, F5, normalized by the size of the R wave[[.]];
F7 Flatness with Tpeak as mean evaluated in a symmetric interval of 20% of the Tstart-Tend-interval surrounding Tpeak[[.]];
F8 Flatness parameter, F7, normalized by the size of the R wave[[.]];
F9 Ratio of the total area under the T-wave from Tstart to Tpeak and the corresponding time interval[[.]];
F10 Flatness parameter, F9, normalized by the size of the R wave.
F11 Ratio of the total area under the T-wave from Tpeak to Tend and the corresponding time interval.
F12 Flatness parameter, F11, normalized by the size of the R wave[[.]];
F13 Ratio of the total area under the T-wave from Tstart to Tend and the corresponding time interval[[.]];
F14 Flatness parameter, F13, normalized by the size of the R wave[[.]];
F15 Ratio of the T wave height and the T wave width[[.]];
F16 The T wave height[[.]];
F17 Average slope from Tstart to Tpeak[[.]];
F18 Average slope from Tpeak to Tend[[.]];
F19 The Hill parameter, n, evaluated by least square fitting of the ~~repolarisation repolarization~~ integral, RI(t), from the Jpoint to the following Ponset[[.]];
F20 The Hill parameter, n, evaluated by least square fitting of the ~~repolarisation repolarization~~ integral, RI(t), from Tstart to Tend[[.]];
F21 The Hill parameter, V_{max} , evaluated by least square fitting of the ~~repolarisation repolarization~~ integral, RI(t), from the Jpoint to the following Ponset[[.]]; and
F22 The Hill parameter, V_{max} , evaluated by least square fitting of the ~~repolarisation repolarisation~~ integral, RI(t), from Tstart to Tend.

6. (Currently Amended) System according to claim 1, ~~e h a r a c t e r i s e d i n t h a t~~
wherein the group of duration comprises at least one of the following parameters:

QTc The Q-T interval normalized by the square root of the R-R interval according to Bazett's formula[[.]];

D2 The time interval from Tstart to Tend[[.]];

D3 The time interval from Tstart to Tpeak[[.]]; and

D4 The time interval from Tpeak to Tend.

7. (Currently Amended) System according to claim 1, ~~e h a r a c t e r i s e d i n t h a t~~
wherein the group of complexity comprises at least one of the following parameters:[[,]]

C1: Number of local maxima between Tstart and Tend; the minimum number is one[[.]]; and

C2: Number of phases between Tstart and Tend, where a phase is defined as a singly connected part of the wave that is entirely above or entirely below the iso-electric line; the minimum number is one.

8. (Currently Amended) System according to claim 1, ~~e h a r a c t e r i s e d i n t h a t~~
wherein the system is ~~s e l e c t i n g a n d c o m b i n i n g~~ c o n f i g u r e d t o s e l e c t a n d c o m b i n e parameters from t h e different groups.

9. (Currently Amended) System according to claim 1, ~~e h a r a c t e r i s e d i n t h a t~~
wherein the system i s c o n f i g u r e d t o b e trained during use, [[where]] w h e r e i n the parameters' values are calculated for individual subjects, [[where]] w h e r e i n the mathematical analysis of the parameters ~~e h o o s e s~~ d e t e r m i n e s at least one optimal small parameter set out of the complete number of parameters from all categories.

10. (Currently Amended) System according to claim 1, ~~e h a r a c t e r i s e d i n t h a t~~
wherein the final classification function is at least based on data from at least one LQT or drug influenced group and Normal subjects stored as a training set, with the consequences

that the classification ~~method~~ is improved by adding new subjects to the training set, [[which]] wherein the new subject can be are tailored to demographic or gender differences.

11. (Currently Amended) Method for ~~analysing~~ analyzing drug influence on ECG curvature, ~~which curvature contains~~ having a number of parameters, ~~characterised in that the method for analysing the ECG curvature incorporates the steps of comprising:~~

- [[a]] receiving ECG curvature from a source,
- [[b]] indicating a number of different parameters contained in the received ECG curvature,
- [[c]] storing the parameters in storage means,
- [[d]] selecting disease specific parameters in the storage means,
- [[e]] selecting parameters from ~~at least three groups, which groups comprises of~~ parameters [[of]] including symmetry, flatness, duration and/or complexity,[[.]]
- [[f]] combining selected parameters in mathematical ~~analysing~~ analyzing means,
- [[g]] representing the result of the mathematical analysis as a point in at least one coordinate system, ~~which coordinate system comprises~~ having at least one axis,
- [[h]] comparing the actual placement in the coordinate system with a number of reference parameters stored in a memory, and
- [[i]] analysing analyzing the QT curvature of the ECG for indicating drug induced changes.

12. (Currently Amended) Method according to claim 11, ~~characterised in that~~ the method [[is]] further comprising repeating the ~~analysing~~ analyzing process for further selected parameters for achieving more reliable results.

13. (Currently Amended) Use of a system for ~~analysing~~ analyzing ECG curvature for test of drugs, [[which]]

wherein system has input means connected to an ECG source,
wherein at least one among a number of different parameters is isolated and stored in the system,

[[where]] wherein the different parameters of a received ECG curvature are indicated and/or isolated for indicating possible symptoms,

[[where]] wherein a number of selected parameters, are combined in at least a first mathematical analysis, where the result of the analysis is represented as a point in at least one coordinate system, comprising at least one axis,

[[where]] wherein the system compares the actual placement in the coordinate system with a number of reference parameters stored in the system, for indicating symptoms having influence on the ECG curvature,

[[where]] wherein the parameters of the ECG curvature are calculated before and after a drug test for a number of subjects,

where the difference for selected parameters between before and after testing are calculated for each subject,

[[where]] wherein the system analyses analyzes the QT curvature of the ECG for indicating acquired Long QT syndrome, and

[[where]] wherein a statistical analysis of selected parameters for a number of subjects gives statistical significance for at least one of the following decisions:

“accept acceptance of the drug”,

“rejection of the drug”, and

“further testing of the drug”.